

AMERICAN TOWING TANK CONFERENCE HERE ON OCT. 7 AND 8

The seventh American Towing Tank Conference of directors of the model towing tanks of the United States and Canada will be held at the Laboratory and at the Newport News Shipbuilding and Dry Dock Company on October 7 and 8. This event will bring to the Peninsula for a two-day session leaders in the fields of naval architecture and hydraulics to discuss technical problems, and to inspect the extensive hydrodynamic research and model-testing facilities in the area.

The members of the conference include Captain H. E. Saunders, Bureau of Ships, Washington, D. C.; Dr. K. S. M. Davidson, Experimental Towing Tank, Stevens Institute of Technology, Hoboken, N. J.; E. S. Turner, National Research Council, Ottawa, Canada; Professor L. A. Baier, Naval Tank, University of Michigan; C. H. Hancock, Hydraulic Laboratory and Ship Model Basin, Newport News Shipbuilding and Dry Dock Co.; and John B. Parkinson, Chief of the Hydrodynamics Research Division of the Langley Laboratory.

Also attending the conference will be Rear Admiral C. O. Kell, USN, Director David Taylor Model Basin; Professor M. Curran, Webb Institute of Naval Architecture; Professor W. S. Hamilton, Northwestern University; Vice Admiral E. L. Cochrane, USN, Massachusetts Institute of Technology and President of the American Society of Naval Architects and Marine Engineers; Rear Admiral H. S. Howard, USN, Stevens Institute of Technology; Dr. Robert T. Knapp, California Institute of Technology; and Professor J. S. McNown, Iowa Institute. Parkinson and Hancock will represent NACA and the Shipyard as joint hosts to the conference visitors.

The visitors will make their headquarters at the Hotel Chamberlin. On October 7 they will hold a morning and afternoon session at the Laboratory and will visit the seaplane towing tanks and Impact Basin. On October 8, they will hold a morning session at the Newport News Shipyard, and will visit the shipyard's hydraulic laboratory and the Mariners' Museum.

The American Towing Tank Conference was organized in 1938, primarily to coordinate the activities of the organizations represented. Its functions include standardization of methods and procedures used in the member tanks, compilation and correlation of existing

scientific data in the field, and cooperation with similar organizations in Europe. The membership and functions are closely integrated with those of the Hydromechanics Sub-Committee of the Research and Technical Committee of the Society of Naval Architects and Marine Engineers.

Towing tanks have been employed for the past 80 years to predict the performance and behavior of marine craft of all kinds by scientific testing of scale models. In the tanks, the models are towed along the surface of the water in a manner to carefully simulate the full-scale operation of the prototype vessel, and precise measurements are made of their characteristics. The results of the towing tests are then expanded mathematically to corresponding full-scale values.

Towing tanks vary widely in size and purpose. The largest and most elaborate installations in the world are at the David Taylor Model Basin at Washington, where models 20 feet long of naval and merchant-type ships are investigated. Great Lakes and western river craft are studied in the University of Michigan tanks at Ann Arbor. The Experimental Towing Tank of the Stevens Institute of Technology in Hoboken, N. J., does a variety of testing for private clients and governmental agencies using models of the order of 4 feet in length. The Newport News Shipyard has the smallest tank which, nevertheless, investigates models of the largest ocean vessels. It thus provides its own naval architects with the experimental data to "build good ships, at a profit if we can, at a loss if we must, but always good ships." Newport News is famous as the only shipyard in the United States which has its own towing tank to increase the value of its product.

Aeronautical engineers also make use of the towing tank to determine the best form for seaplane floats and hulls. The NACA at Langley Field has two large seaplane tanks for predicting the take-off and landing performance behavior of seaplanes, and a so-called "impact basin" in which the experimental data is gathered for the structural design of seaplane hull bottoms. With these facilities, the Langley researchers are able to provide the aeronautical industry with improved hull forms and fundamental information required for the design of continually better marine aircraft.



Among the facilities to be viewed by the visitors at the American Towing Tank Conference to be held here and at the Newport News Shipyard October 7 and 8 will be the Impact Basin and the two Langley towing tanks. Tank 1



is shown (left) in an early stage of construction in 1930 and an interior of the newer Tank 2 (right) is shown with a model about to be tested. John B. Parkinson, Chief of the Hydrodynamics Division, will be a conference member.